THE ENERGY SITUATION: CONSUMER ATTITUDES AND REACTIONS (1975 - 1984)

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SUMMARY

Analysis of ten surveys (1975-1984) of the Canadian publics attitudes and reactions to the energy situation and an examination of selected economic and household statistics has led to the following conclusions:

- Consumers interest in the energy situation, as measured by the percentage of Canadians who volunteered that energy was one of the problems facing Canada, has gone through three stages: Stage 1 (1975-79) - a period of increasing intrest, Stage 2 (1979-82) - sharp price increases result in the highest degree of concern, Stage 3 (1982-84) - general disinterest in energy.
- Consumer interest has focused primarily on energy prices, not energy shortages. In a list of six issues, energy shortage was always lowest in terms of concern. Energy prices was rated considerably higher, but usually below the traditional "big three" (unemployment, inflation, interest rates).
- Canadians' reactions to the energy situation, as measured by self-reported conservation activities, tended to match the trend in their attitudes (a general rise, relatively high participation, then a decline). However, the decline in reported conservation actions in recent years was far less than the decline in interest.
- Canadians' attitudes, measured in terms of hostility and a need to conserve, again exhibited a similar pattern to their interest and reactions. Both attitude measures rose, then declined.

- The relatively dramatic increases in energy prices, particularly in the 1981-82 period probably explains a considerable amount of the variation in interest, reactions, and attitudes. In particular, the price increases help explain why conservation activities showed a lower decline than interest.
- Canadians have consistently supported government programs that provided information or offered financial incentives and not supported programs that proposed restricted use of fuels or increased energy prices.
- In terms of awareness and participation rates, both CHIP and COSP have been well received by Canadians.
- The percentage of Canadian homes that use oil as the principal heating fuel has declined from 54% in 1974 to 28% in 1983.
- Car ownership and usage patterns have been generally stable since 1974. In both 1974 and 1982 the average passenger cars per household was 1.28.
- Net sales of gasoline declined by 11% between 1974 and 1982. The primary reason for this decline was the improvement in the fuel efficiency of automobiles. All available evidence suggests that Canadians exhibit relatively constant driving patterns (i.e. - approximately 16,000 kilometers per year).

In summary, the two most substantive changes in the consumer energy field have been the shift in home heating fuels, away from oil and towards electricity and natural gas, and the improved efficiency of the pas-

senger car fleet, accomplished through downsizing and generally more fuel efficient cars. The net result has been a significant decline in the demand for oil with the result that by the summer of 1984 Canada was a net exporter of oil.

The primary reason for these changes is the cost of energy. Between 1975 and 1984 the Energy Price Index has far outstripped both the Consumer Price Index and average weekly earnings. Consumers have reacted to the pure increases, primarily, by using energy more efficiently (e.g. - downsizing cars, insulating homes). By incorporating structural changes into their environment, many consumers have been able to maintain previous lifestyles while using less energy. This is an important point as it illustrates a fundmanetal aspect of consumer behavior and energy use. Consumers have shown a low propensity for conserving energy by modifying their lifestyle (e.g. - driving less, turning down the thermostat). Consumers are willing to "purchase" energy efficiency which allows them to continue prior living patterns. Of interest would be an attempt to determine the relative impact on conservation behavior of government programs and market forces (e.g. - the price of energy).

The final section of this report will examine implications for the future of energy conservation in the consumer sector.

The following implications are focused on the role of government in the future of consumer conservation programs. The implications are:

- Government departments should consider reducing their involvement in consumer energy conservation programs.

- Govermment departments should consider focusing their efforts on improving energy efficiency standards in the consumer sector.
- Considering the possibility of future oil shortages because of international events, government departments should consider taking steps to enhance their credibility particularly in the area of information concerning existing supplies, imports, exports, and prices.
- The most effective means of achieving conservation is through sharp, well-publicized price increases. It is recognized that this is not a politically viable strategy.

In summary, the energy situation for most Canadians is of minimal interest. Conservation activities have and will continue to occur primarily as a result of market forces. Under these circumstances, government departments should minimize their direct involvement with consumers and engage in strategies which improve the structural environment (e.g. - houses, cars, appliances) for consumers.

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INTRODUCTION

The Federal Government has commissioned surveys of Canadians' attitudes and reactions to the energy situation for the past decade (1975-1984). The purpose of this report is to review these surveys and provide a perspective on this decade of research. To accomplish this, the survey results will be placed in a larger context which will include some important economic factors which have impacted on Canadian consumers and influenced their views.

The rationale for these surveys is to obtain an understanding of consumers vis-a-vis energy in order to design and develop effective programs to accelerate the conservation process. Presumably by determining interest and activity levels in energy conservation, program design and implementation can be tailored to consumer needs.

The structure of the paper is as follows. First, the methodology employed in the annual surveys will be discussed. Second, consumer attitudes towards the energy situations will be reported followed by their self-reported conservation activities. Next, consumer views regarding various government programs will be examined, including their awareness of participation rates with respect to COSP and CHIP. Results concerning automobile ownership and driving patterns will then be reviewed. Finally, conclusions and implications will be drawn.

METHODOLOGY

There were two different sampling procedures used. The first was employed in the surveys done between 1975 and 1978. Results of these four

studies were based on telephone interviews conducted with male and female respondents fifteen years of age or older. In all cases the youngest person home at the time of the interview, who qualified, was interviewed.

Quota sampling procedures were used in these studies. In all the centres studied both sex and age quotas were applied. All samples had to be fifty percent male and fifty percent female. The age quota required that fifty of the two hundred and fifty sample in each of the English cities be fifteen years of age, but less than eighteen. The remaining two hundred had to be eighteen years of age or over.

The only exceptions were Quebec City and Montreal, where the young quota (15 but less than 18) was increased to seventy-five giving a total sample of no less than 275 in each centre. Fieldwork was conducted in March and April of each year.

The second method was used on the six surveys conducted between 1979 and 1984. These surveys were carried out in up to nine centres in which interviewing was done on the telephone. Telephone numbers in the sample were selected using a random procedure from the current telephone directories. Four replicates of numbers were selected for each city, each replicate being a random sample in its own right. Each replicate was exhausted before moving into the next one. The samples for all the cities were pre-selected at the head office of the research firm conducting the survey. A one initial call plus one call-back procedure was specified to improve the possibility of contacting people not at home initially. Only the female or male head of household was interviewed, the sex to be interviewed

being specified on each questionnaire. Where there were two heads of household of the same sex, the one with the next birthday was selected.

CONSUMER ATTITUDES AND ACTIVITIES

Canadian attitudes and reactions towards the energy situation can be decomposed into three stages. Stage 1 (1975-79): a period of increasing interest; stage 2 (1979-82): sharp price increases result in the highest degree of concern; stage 3 (1982-84): general disinterest in energy. Because of the different aspects of the energy situation the years of delineation of the stages should be considered as somewhat arbitrary.

The level of concern was measured by the percentage of Canadians who volunteered that energy was one of the problems facing Canada (Table 1). In 1975 and in 1978 (the questions was not asked in 1976 and 1977) only about 6% of the respondents mentioned energy as a problem. Between 1979 and 1981 approximately one Canadian in six beleived that the energy issue was one of Canada's problems. By 1982-84 that figure became only one in twenty.

A measure of interest was the perceived seriousness of several issues including energy shortage and the cost of energy (Table 2). Between 1976 and 1981 about 60% felt that the energy shortage was very or somewhat serious. During the past three years that percentage has been decreasing, declining to 42% in 1984. It should be noted that the energy shortage has consistently ranked last in the list of issues measured. The cost of energy since 1979 (when this issue first appeared in the survey) has been considered far more seriously than the energy shortage. Approximately four

Canadians in five felt that the cost of energy was very or somewhat serious in the period 1979-84. Thus for most Canadians the "energy problem" was and is the cost and not the possibility of a shortage. For most people the energy shortage was interpreted as a shortage of gasoline and oil (Table 3). Between 1975 and 1980, approximately twice as many Canadians felt that a shortage of gasoline and heating oil was very or somewhat serious compared to electricity or natural gas.

Canadians' reactions to the energy situation tended to match the fluctuations in their attitudes. Self-reported energy conservation activities generally peaked in stage 2 (Table 4). For example, the proportion who claimed that they turned down their thermostats was 63% in 1975, 86% in 1980 and then slowly declined to 79% in 1984. The fraction of Canadians who stated that they were driving less was 58% in 1978 and remained level until 1984 when it declined slightly to 51%. With minor variations other energy conserving activities exhibited similar patterns.

The annual pattern of thermostat settings (Table 5) is similar to the pattern exhibited in energy conserving activities. From 1979 the average day thermostat setting dropped from 67.8°F to 66.8°F its minimum in 1982. By 1984 the average rose almost half way back to its 1979 value. The average night setting fell 2°F from 1979 to its low in 1983. In 1984 the setting was up 1°F.

Along with increasing concern and energy conserving activities there was increased hostility and need to conserve (Table 6). The percentage of respondents who believe that the energy crisis was a hoax was 37% in 1979, 50% in 1982 and 1983 and then fell to 42% in 1984. Approximately four out

of five Canadians believed in 1979-82 that everyone is soon going to have to use less energy. However, in 1983-84 only about 66% felt that way. In 1981-82 about two-thirds of the respondents thought that a change in Canadian lifestyles was needed to solve our energy problem. Slightly more than half held that belief in 1983-84.

The likely cause of all these reactions was the variation in the increases in the cost of energy. From Table 7 it can be seen that the Energy Index was only slightly higher than the Consumer Price Index (CPI) in the period 1974-1979. In this period increases in income exceeded the CPI increases and more or less kept even with energy cost increases. However, in 1980-82 the Energy Index increased far more rapidly than the CPI which in turn grew faster than incomes. As a result Canadians experienced increased financial pressures because of energy costs.

If Canadians had perceived the actual size of the price increases the peaks in attitudes and reactions in Stage 2 could possibly have been higher. In general, respondents tended to underestimate the large increases in 1980-82 and overestimate the smaller increases which followed (Table 8). It is quite likely that had perceptions more closely matched reality we would have witnessed a higher level of concern about energy in the late seventies and early eighties.

GOVERNMENT PROGRAMS

Over the ten years, Canadians have been asked to rate a wide variety of energy conservation programs. As shown in Table 9, Canadians generally supported programs that provided information or offered incentives.

They did not support programs that restricted their use of fuels or increased energy prices. Simply stated, Canadians consistently favored programs that did not cost them money and rejected programs that did.

The concept of economic self-interest explains these results. Consumers, in most circumstances will choose options which enhance their economic interests. While it might be expected that patriotic motives could override economic goals in times of emergency (e.g. - impending oil shortages) this has seldom been the case. As shown in Table 10, even when interest in the energy situation was at its highest (during 1980-81) only one-quarter of those surveyed supported a tax on all heating fuels, electricity and gasoline to encourage people to conserve. By 1983 only one in ten Canadians supported this proposition. It would appear that patriotic motives can play a minor role in social marketing efforts (e.g. - energy conservation) but, in general, economic motives will be the dominant factor. It also appears likely that any future government conservation programs that run contrary to the individual consumer's economic self-interest will be resisted.

CHIP and COSP

In terms of awareness and participation rates, both CHIP and COSP have been well received by Canadian homeowners (Table 11). Eight out of ten homeowners have heard of CHIP and approximately one in three has received a grant. What is not known is how effective the CHIP program has been in terms of reducing home heating energy consumption. Unfortunately, no public documentation is available to address this issue.

With respect to COSP, it has achieved a 50% awareness rate among homeowners who heat with oil and about one-half of the "switchers" (from oil to another fuel) have received a COSP grant. The impact of COSP, along with a host of other factors including the tremendous escalation of fuel oil prices and the fear of oil shortages, can be seen in Table 12. The percentage of homes that use oil as the principal heating fuel has declined from 54% in 1974 to 28% in 1983, an absolute change of 26%. The magnitude of this decrease must be considered remarkable. As the energy crisis in Canada was primarily an oil crisis, this massive transformation is an important contribution to solving our energy problem.

A cautionary note needs to be offered concerning the information reported in Table 12. In 1983, the data indicate that only 4% of Canadian households use wood as the principal heating fuel. An independent study commissioned by Energy, Mines and Resources found that, on a national basis, 8% of all households used wood as the primary heating fuel. While it is unlikely that the pattern of declining oil use for heating is incorrect, a discrepancy exists between the two sets of data.

AUTOMOBILE OWNERSHIP AND DRIVING PATTERNS

Because private transportation is an important component of oil demand in Canada additional analysis was conducted on automobile ownership and usage patterns. The trend in the number of cars owned per household between 1981 and 1984 (Table 13) reveals that there has been virtually no change in the distribution of cars owned per household. Canadians own, on

average, 1.4 cars per household and almost four in ten households own more than one car. Only 12% of the households do not own a car.

Two of the major ways in which energy conservation can be achieved in the private transportation sector are improved new vehicle efficiency and consumer purchase of smaller cars (i.e. - downsizing). Information on the magnitude of downsizing is available for the last four years. As shown in Table 14, the proportion of four cylinder vehicles owned has increased with a corresponding decrease in eight cylinder vehicles. These results provide some indication of the shift in downsizing over the four years and the conservation gains which can be achieved by this method. Also of interest is the shift in cylinders per vehicle by single and multiple vehicle households. Since 1981, there has been a tendency for single vehicle households to downsize slightly more than multiple vehicle households (Table 15). This downsizing shift for all households, but in particular for single vehicle households, was most dramatic in 1984. It should also be noted that the average cylinders per vehicle is virtually the same regardless of the number of vehicles owned by the household.

Table 16 summarizes the key variables previously discussed and serves to reemphasize that multiple vehicle households had, on average, similar size vehicles (as measured by cylinders) to single vehicle households. For two vehicle households in 1984, each vehicle averaged 6.0 cylinders and for three vehicle households, the average number of cylinders per vehicle was 6.3. Similarly, the average number of days <u>each</u> vehicle was driven to work or school (i.e. - used for commuting) was similar, with single vehicle households at 3.7 days per week and three vehicle households at 3.2 days

per week. Thus, multiple vehicle households do not practice conservation activities when compared to single vehicle households, in terms of either the size of their vehicles or the number of days commuting. Clearly, multiple vehicle households are heavy users of gasoline and offer targets for various conservation programs.

The demographic characteristics for each category of vehicle ownership (none, one, two, three or more) for 1982 to 1984 are presented in Table 17. A clear demographic profile can be established which is consistent for both years for vehicle ownership; as household vehicle ownership levels increase so does; family income, the percent owning their own home, the percent speaking English, the number of people residing in the home and the number of people in the household who work full-time. The forces which influence households to own vehicle(s) are very straightforward and heavy users of gasoline can easily be identified through this type of demographic analysis.

To provide a further perspective on automobile ownership and driving paterns between 1974 and more recent times, selected data from Statistics Canada is reported. First, in Table 18, the proportion of households with automobiles has shown an increase in multiple car households since 1974. Specifically, the number of two car households has increased by 4% and three or more car households by 2%. The major decline (5%) has occured with one car households. Overall, there has been an increase in passenger cars of 26% between 1974 and 1982.

In spite of this increase in car ownership and total passenger cars in Canada net sales of gasoline declined by 11% between 1974 and 1982. The

two possible reasons for this decline could be that Canadians are driving less and/or they are driving more fuel-efficient cars. The answer appears to be that, by and large, people are driving the same amount but are driving more fuel efficient cars. The evidence is contained in a quarterly survey conducted by Statistics Canada. The survey is based on actual gasoline consumption of passenger cars across Canada. As shown in Table 19, the average kilometers driven remained virtually constant for the three year period 1980 to 1982 in spite of the fact that Canada was in a severe recession in 1982. However, the fuel efficiency of these automobiles increased by over 11% during that time and as a result the average litres consumed per vehicle showed a corresponding decline. While the quarterly survey results cover slightly less than a four year period, it would seem reasonable to conclude that the major reason for the decline in demand for gasoline in Canada has been due to improved fleet fuel efficiency.

These results provide a number of insights into consumer behavior vis-a-vis energy use. They are:

- Consumers value levels of driving and kilometers driven is quite demand inelastic.
- When faced with increasing gasoline prices, consumers will move to more fuel efficient automobiles in order to maintain their driving levels.
- Consumers have been downsizing their vehicles. Between 1981 and 1984 the number of four cylinder vehicles increased from 26% of the passenger car fleet to 34% with a corresponding drop in eight cylinder cars.

Thus, increased gasoline prices had lead to more fuel-efficient vehicles and no reduction in kilometers driven. Consumers, born and raised with the automobile, continue to drive, but in more fuel-efficient vehicles.

CONCLUSIONS

The past ten years have seen dramatic changes in Canadians' attitudes towards the energy situation and their conservation activities. The two most substantive changes have been the shift in home heating fuels, away from oil and towards electricity and natural gas, and the improved fuel efficiency of the passenger car fleet, accomplished through downsizing and generally more fuel efficient cars. The net result has been a significant decline in the demand for oil with the result that by the summer of 1984 Canada was a net exporter of oil.

The primary reason for these changes is the cost of energy. Between 1975 and 1984 the Energy Price Index has far outstripped both the Consumer Price Index and average weekly earnings. Consumers have reacted to the pure increases, primarily, by using energy more efficiently (e.g. - downsizing cars, insulating homes). By incorporating structural changes into their environment, many consumers have been able to maintain previous lifestyles while using less energy. This is an important point as it illustrates a fundmanetal aspect of consumer behavior and energy use. Consumers have shown a low propensity for conserving energy by modifying their lifestyle (e.g. - driving less, turning down the thermostat). Consumers are willing to "purchase" energy efficiency which allows them to continue prior living patterns. In one sense, consumers have become better "energy managers". However, in another sense, they have not become "conservers" because they have shown little evidence of reducing what many would regard as highly discretionary energy use.

Consumers' attitudes towards the energy situation have shifted considerably over the last decade. Concern over energy peaked in the 1980-81 period and has declined since. As with many national issues, Canadians' interest and concern over energy is transitory in nature and is dependent on critical incidents (e.g. - oil embargo) and other problems (e.g. - unemployment). On a relative basis, concern about the energy situation has consistently been lower than the "big three" issues; inflation, unemployment, and interest rates. The important point to note, with respect to attitudes, is if interest/concern levels are low, it is more difficult to get consumers to act in a desired manner. That is, interest is a necessary precondition for action. However, sufficient motivation levels are also required.

The pattern of self-reported conservation activities was similar to interest and concern levels; gradual increases followed by a decline. However, the relative decline was considerably less with respect to activities when compared to interest levels. The explanation lies, in part, with the increase in energy prices, both real and perceived. The substantial increase in energy prices in the 1981-82 period and the large perceived increase in prices (1982 to 1984) was undoubtedly a considerable motivating force to encourage continued conservation practices.

Considering the influence of government programs, it is difficult to determine their overall impact on conservation actions. While awareness and participation rates were high, the benefit/cost ratio is unknown. It can be concluded that, at a minimum, the programs offered a reasonable facilitating mechanism, and, at a maximum, could be justified on a cost/benefit basis.

Of interest would be an attempt to determine the relative impact on conservation behavior of government programs and market forces (e.g. - the price of energy).

The final section of this report will examine implications for the future of energy conservation in the consumer sector.

IMPLICATIONS

The following discussion is based on the results of the decade of energy surveys as well as the authors' experiences in the consumer energy conservation field. The focus is on the role of government in the future of consumer conservation programs. The implications are:

1. Government departments should consider reducing their involvement in consumer energy conservation programs. Because interest and concern regarding the energy situation has declined, government efforts to increase conservation activities may have low returns. It may be appropriate to let market forces work without government intervention.
2. Government departments should consider focusing their efforts on improving energy efficiency standards in the consumer sector. Standards have proven effective in increasing the fuel efficiency of automobiles and the energy efficiency of appliances. Efforts focused on improving the energy integrity of residential buildings, both new and existing, through the use of standards appears now to be a fruitful endeavor.

3. Considering the possibility of future oil shortages because of international events, government departments should consider taking steps to enhance their credibility particularly in the area of information concerning existing supplies, imports, exports, and prices.

By establishing credibility, government departments would receive greater attention and acceptance by consumers in times of emergency.

Interest in the energy situation was characterized as having sharp peaks of short duration. Any inroads in persuading Canadians to reduce energy use were made during these periods. Past experience strongly demonstrates that these peaks were the result of economic factors. In light of this the following implications are made.

The following suggestions are politically difficult (or impossible) but are probably the most effective in encouraging energy conservation:

1. Publicize energy cost increases,
2. Infrequent but large cost increases are more effective than frequent small increases.

It is recognized that at the present time these recommendations are unfeasible. However, when (not if) the next energy crisis hits and cost increases are inevitable, one large highly publicized increase in price combined with greater government credibility may be the best strategy

In summary, the energy situation for most Canadians is of minimal interest. Conservation activities have and will continue to occur primarily as a result of market forces. Under these circumstances, government departments should minimize their direct involvement with consumers and engage in strategies which improve the structural environment (e.g. - houses, cars, appliances) for consumers.

TABLE 1

Problems Facing Canadians Today (1975, 1978-1984)

Mentioned (percentage)[a]	1975	1978	1979	1980	1981	1982	1983	1984
Energy only	2	2	4	5	5	1	1	1
Energy and another issue	6	5	13	17	16	5	7	3
Other issue	87	90	77	70	70	92	88	93
No issue	5	3	6	8	9	2	4	3
	100	100	100	100	100	100	100	100
Total energy mentions	8	7	17	22	21	6	8	4
N =	1422	1409	1654	1637	1606	1659	1897	1814

Question: "Of all the problems facing people living in Canada, which ones do you feel we should be most concerned about today? (PROBE) Are there any other areas of concern?"

[a] Includes "Don't Know" responses.

TABLE 2

Perceived Seriousness of Selected Issues in Canada (1975-1984)

Percent Stating Issue is Very Serious or Somewhat Serious[a]

Issue	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Inflation	92	90	91	92	92	95	93	95	87	76
Unemployment	73	76	87	94	88	82	80	96	98	98
Energy Shortage	45	60	63	62	60	66	57	49	42	42
Cost of Energy	-	-	-	-	80	82	80	82	85	74
Pollution	-	-	-	-	69	72	72	68	71	78
Interest Rates	-	-	-	-	-	-	-	95	67	62
N =	1422	1436	1413	1409	1654	1637	1606	1659	1897	1814

Question: "I would like you to think about the following issues and tell me how seriously you feel each one is affecting us in Canada today. Would you say it is very seriously affecting Canada, somewhat seriously, not too seriously, or not seriously at all?"

[a] Includes "Don't Know" responses.

TABLE 3

Perceived Shortage of Specific Fuels (1975-1980)

	Percentage who feel the possibility of a shortage is very or somewhat serious					
	1975	1976	1977	1978	1979	1980
heating oil	51	61	63	59	57	64
electricity	26	42	47	44	38	34
gasoline	52	69	69	68	62	69
natural gas	35	48	47	46	32	34
N =	1422	1436	1413	1409	1654	1637

Question: "Now, more specifically, I would like to discuss what is commonly termed the 'energy shortage'. Thinking of (FIRST * PHRASE),[a] do you feel the possibility of a shortage in Canada, in the coming years, is very serious, somewhat serious, not too serious, or not serious at all"?

[a] This refers to the type of fuel (e.g., heating oil, electricity).

TABLE 4

Self-Reported Energy Conserving Behaviors and Activities (1975-1984)
Percent of Eligible Respondents Engaging In:[a]

	1975	1976	1977	1978	1979[b]	1980	1981	1982	1983	1984
Home Related										
Using less hot water	33	40	56	61	36	47	41	51	47	44
Turning down thermostat	63	70	84	84	71	86	80	83	78	79
Turning off lights more often	74	81	88	92	79	86	82	85	80	83
Keeping the hot water at lower temperature	-[c]	-	-	-	36	47	46	52	48	46
Making improvements to home insulation	-	-	-	-	58	69	68	69	60[d]	59[d]
Furnace serviced yearly	-	-	84	83	79	79	77	77	76	72
Installed weatherstripping/ caulking	-	-	-	-	-	-	65	76	69[d]	71[d]
Installed storm windows & doors	-	-	-	-	-	-	59	61	57	56
Installed a timer on thermostat	-	-	-	-	-	-	17	21	14	16
Transportation Related										
Driving less	40	44	55	58	43	57	54	59	56	51
Purchase smaller car	-	-	62	66	33	45	49	49	48	51
Car serviced more often	-	-	88	91	46	55	53	49	-	
Car tuned up twice per year	-	-	-	-	-	-	-	-	81	79
Using public transportation more	-	-	64	67	41	46	40	43	36	39
Participating in car pool	22	17	24	31	29	27	27	25	24	21
Check the tire pressure on my car at least once a month	-	-	-	-	-	-	-	68	62	63
Information Seeking										
Had a home energy audit conducted	-	-	-	-	-	14	17	19	19	20
Read "100 Ways to Save... Home"	-	-	-	-	34	40	38	-	-	-
Read "The Car Mileage Booklet"	-	-	-	-	26	27	26	-	-	-
Read "Keeping the Heat In"	-	-	-	-	26	27	23	-	-	-
Read "The Fuel Consumption Guide"	-	-	-	-	-	-	-	-	37	37
Read "Home Energy Planning Book"	-	-	-	-	-	-	-	-	-	31
Obtained literature about how to save energy	-	-	-	-	-	-	-	68	-	-
Often talk with my friends or neighbors about how to save energy	-	-	-	-	-	-	-	45	46	43
N =	1422	1436	1413	1409	1654	1637	1606	1659	1897	1814

Question: "Since the start of the energy situation a few years ago, some people have changed some of the things they do. I will now read to you a list of things people have or have not done to conserve energy. Please tell me "YES" or "NO" for each statement as it applies to you."

a - "Not applicable" answers removed.
b New sampling procedures and question changed introduced in 1979.
c - Not asked.
d - Asked only of homeowners in 1983 and 1984.

TABLE 5

Average Thermostat Settings (1979-1984)

	Day	Night
1979	67.8[a]	66.7
1980	67.1	66.1
1981	66.9	65.9
1982	66.8	65.0
1983	67.1	64.6
1984	67.2	65.7

[a] Degrees Fahrenheit.

TABLE 6

Attitudes Towards the Energy Situation (1979-1984)

	Percentage Agreeing[a]					
Hostility	1979	1980	1981	1982	1983	1984
The "Energy Crisis" was a hoax.	37	37	41	50	50	42
I resent utilities and governments asking me to save more energy.	30	27	28	35	30	27
Businesses waste far more energy than consumers do.	66	68	65	63	68	68
Government and business should be doing the energy saving not consumers.	31	27	29	33	34	32
The oil companies have profited unfairly from the energy situation.	-[b]	-	68	68	68	67
Need to Conserve						
There is no real need to conserve energy because technology will solve the problem.	18	15	16	21	18	15
There is no real need to conserve energy since we have plenty of gas and oil.	17	14	14	13	14	10
Soon everyone is going to have to use less energy.	80	86	82	79	66	65
If Canadians don't reduce the amount of gas and oil they use, in a few years Canada will be too dependent on foreign oil producers.	61	67	58	53	47	51
The solution to the energy situation will mean that all Canadians will have to change their lifestyles quite a bi.	-	-	67	68	57	53
Other						
It's probably not that difficult to reduce the amount of energy I use.	73	77	71	70	69	72
It is useless for the individual consumer to do anything about energy conservation.	14	13	12	15	12	10
Any homeowner who spends money on home insulation is making a good investment.	-	-	93	91	95	95
The high cost of energy has caused me severe hardship.	-	-	-	33	28	25
I budget very carefully for fuel and electricity bills.	-	-	-	-	59	58
I know where to get accurate information on how to save energy.	-	-	-	-	67	70

Question: "I am going to read some statements made about the energy situation. I'd like to know, for each, whether you agree or disagree. (READ * STATEMENT) Do you agree or disagree?"

[a] Includes "Don't Know" responses.
[b] Question was not asked in that year.

TABLE 7

Selected Price and Income Factors, Canada (1971 = 100)

Price Factors[a]	1971	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	March 1984
Consumer Price Index	100.0	125.0	138.5	148.9	160.8	175.2	191.2	210.6	236.9	262.5	277.6	287.1
Food	100.0	143.4	161.9	166.2	180.1	208.0	235.4	260.6	290.4	311.4	322.9	339.2
Transportation	100.0	115.8	129.4	143.3	153.3	162.2	178.0	200.7	237.6	271.1	284.6	291.8
Private Transportation	100.0	116.6	130.1	143.3	153.5	162.7	178.6	200.5	238.3	270.2	282.9	289.8
Public Transportation	100.0	112.2	126.6	144.9	153.8	161.1	175.8	204.3	234.8	281.6	300.5	309.7
Energy	100.0	129.2	146.6	169.2	189.8	207.4	227.8	264.2	343.6	411.7	443.6	460.4
Fuel Oil and Other Liquid Fuels	100.0	158.7	180.2	209.2	241.6	275.5	309.8	372.3	534.1	652.7	719.4	755.2
Piped & Bottled Gas	100.0	112.7	136.2	175.6	198.7	236.0	249.8	278.2	354.4	440.5	484.8	489.1
Electricity	100.0	115.3	128.6	149.2	174.6	188.7	205.1	224.1	243.9	270.7	295.1	312.9
Gasoline	100.0	125.5	142.0	159.6	173.4	183.1	201.8	240.1	326.7	396.6	420.8	434.5
Income Factors												
Average Weekly Earnings Index	100.0	129.4	147.7	165.6	181.6	192.8	209.4	230.6	258.1	-	289.8	287.0

[a] Consumer Prices and Price Indexes, Statistics Canada, various issues, catologue 62-010.

TABLE 8

Perceived and Actual Cost Increases in Past 12 Months (1979-84)[a]

Energy Source	Average Percentage Increase					
	1979	1980	1981	1982	1983	1984
Fuel oil and other liquid fuels (actual)	N/A	19.5	39.6	29.6	12.8	3.7
Heating oil (perceived)	15.2	16.5	19.0	24.9	20.7	14.9
Electricity (actual)	N/A	8.0	9.7	10.6	8.5	7.5
Electricity (perceived)	14.7	13.0	14.0	18.5	15.8	13.6
Gasoline (actual)	N/A	19.0	32.3	27.5	12.6	- .2
Gasoline (perceived)	14.7	17.6	19.9	29.8	24.9	16.1
Piped & bottled gas (actual)	N/A	7.5	26.8	28.5	12.2	1.5
Natural gas (perceived)	14.6	14.1	16.7	22.2	19.7	13.0

[a] Source: The Consumer Price Index, Catalogue 62-001, Statistics Canada, various issues. Increases calculated on a March to March basis.

TABLE 9

Perceived Effectiveness/Support for Government Energy Conservation Program (1975-1980)

Program Type	Rank: Perceived effectiveness/support 1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Number of programs rated	6	6	10	10	11	11	12	8	7	7
Advertising/information programs										
- encourage people to set thermostat at 18°C or less	4[a]	2	-	-	-	-	-	-	-	-
- give the public facts about future energy supplies	-[b]	-	2	1	5[c]	4	3	-	-	-
- show people how much can be saved if everyone uses a little less	-	-	3	2	3	-	-	-	-	-
- tell consumers how to cut their heating bills	-	-	5	4	-	-	-	-	-	-
- show people how to maintain their cars	-	-	6	6	6	5	6	-	-	-
- appliance energy-use labelling required	-	-	-	-	1	1	1	-	-	-
- fuel consumption stickers on new cars	-	-	-	-	-	-	-	-	2	2
- voluntary home energy audit	-	-	-	-	-	-	-	-	3	3
- show people how to improve insulation	-	-	-	-	-	-	-	-	1	1
Tax incentive programs										
- tax break for insulating homes	-	-	1	3	-	-	-	-	-	-
- expand grant program for home insulation	-	-	-	-	2	2	4	-	-	-
- reduce price of public transportation	-	-	4	5	-	-	-	-	-	-
- subsidies to improve public transportation	-	-	-	-	4	3	2	1	-	-
Price increase programs										
- make gasoline $0.34 a litre	5	5	-	-	-	-	-	-	-	-
- double the price of electricity	6	6	-	-	-	-	-	-	-	-
- price electricity higher the more it is used	-	-	7	7	8	9	9	5	-	-
- remove controls on the price of gas and oil	-	-	9	8	-	-	-	-	-	-
- tax all fuels	-	-	-	-	7	7	7	3	5	5
- special tax on gas-inefficient cars	-	-	-	-	9	-	-	-	-	-
- fines for using too much energy	-	-	-	-	-	-	-	-	6	6
- special tax on gasoline										
Regulatory programs										
- maximum speed limit of 90 km/h	1	1	-	-	-	-	-	-	-	-
- required home energy audit	-	-	-	-	-	8	8	4	-	-
- require homes to meet insulation standards before being sold	-	-	-	-	-	6	5	-	-	-
Rationing programs										
- ration fuel oil	3	4	-	-	-	-	-	-	-	-
- ration all fuels	-	-	8	10	10	11	12	8	7	7
- limit energy use for leisure travel	-	-	-	-	-	-	11	6	-	-
Other programs										
- stop exporting oil to the United States	2	3	-	-	-	-	-	-	-	-

[a] Of the six programs rated by respondents in 1975, "Encourage people to set the thermostat at no more than 18°C" was perceived as fourth most effective.

[b] Not asked.

[c] Of the 11 programs rated by respondents in 1979, "Give the public facts about future energy supplies" was the fifth most supported program.

TABLE 10

Degree of Support for Possible Government Conservation Measures (1979-1984)

	Percentage Supporting					
	1979	1980	1981	1982	1983	1984
Price Increase Programs						
A special tax on cars that get less than 20 miles per gallon.	55	63	57	45	35	36
Pricing electricity so that the cost per kilowatt hour becomes more expensive the more you use.	42	50	41	43	-	-
A special tax on gasoline to provide funds for oil exploration and technology improvements.	-	-	-	-	16	22
A tax on all heating fuels, electricity and gasoline to encourage people to conserve.	22	28	23	20	-	-
Increasing the price of all heating fuels, electricity, and gasoline to encourage people to conserve.	-	-	-	-	11	13
Regulatory Programs						
A requirement that all homes, new and old, would have to be insulated to a certain standard before they could be sold.	-	81	76	73	68	70
A program which requires automobile manufacturers to put fuel consumption stickers on all new cars that are for sale.	-	-	-	-	81	83
A program that requires all homeowners to pay $25 to have their house rated for energy efficiency. A certified person would examine the house and make recommendations.	-	57	51	45	-	-
Rationing the amount of gasoline, heating oil and electricity each person can use.	25	27	22	18	16	17
A government program to limit energy used for leisure and vacation travel.	-	-	31	29	-	-
Voluntary Programs						
A program that assists homeowners in having their houses rated for energy efficiency. For a fee of $25 a certified person would examine the house and make recommendations.	-	-	-	-	70	76
Subsidies to improve public transit to encourage people to leave their cars at home.	82	85	82	82	-	-
A program which shows people how to improve the insulation of their homes.	-	-	-	-	90	92

Question: "I would like to read to you a few suggestions that people have made while discussing the energy situation. As I read each one, would you tell me whether you would support or not support the suggestion. (READ * STATEMENT)

TABLE 11

Awareness of and Participation in CHIP and COSP (1982-1984)

	Homeowners		
	1982 %	1983 %	1984 %
CHIP			
- Heard of Program	78	82	80
- Received a Grant	23	27	29
COSP	Homeowners who heat with oil		
- Heard of Program	42	50	48
	Homeowners who have switched from oil to other energy form		
- Received a Grant	35	48	54
	Homeowners who heat with form other than oil (over total oil users)		
- Recently switched from oil to other energy form	13	15	12

TABLE 12

Principal Heating Fuels, Canadian Households[a]

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	Change 1974-83
Oil	53.6	-	47.6	45.1	43.6	41.6	37.2	34.2	30.7	28.3	-25.3
Natural Gas	34.5	-	36.7	37.8	37.2	37.6	39.5	41.5	42.7	43.5	+ 9.0
Electricity	8.6	-	13.1	14.4	16.2	18.1	19.5	20.6	21.5	23.3	+14.7
Wood	1.8	-	1.5	1.5	1.8	1.8	2.8	2.7	4.3	4.0	+ 2.2
Coal	.4	-	.3	.4	.4	.3	.3	.2	.2	-	- .4
Bottled gas	1.1	-	.8	.8	.8	.6	.7	.7	.6	.7	- .4
Other	-	-	-	-	-	-	-	.1	-	.2	+ .2
	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0
Total households ('000)	6,493	-	6,918	7,022	7,320	7,558	7,787	8,026	8,254	8,460	

[a] Source: Household Facilities and Equipment, Statistics Canada, various issues, Catalogue 64-202.

TABLE 13

Number of Vehicles Owned
(Percentage)

Number of Vehicles	1981	1982	1983	1984	Change 1984-81
None	12.1	11.4	12.5	12.0	- .1
One	48.8	50.1	51.2	49.4	+ .6
Two	30.1	28.7	28.2	29.7	- .4
Three	6.0	7.4	5.8	6.0	.0
Four or more	3.0	2.4	2.3	2.9	- .1
Total	100.0	100.0	100.0	100.0	.0
N =	1593	1653	1894	1814	
Average number of vehicles owned/household	1.4	1.4	1.3	1.4	0.0
Average number of vehicles owned/vehicle owning household	1.6	1.6	1.5	1.6	0.0

TABLE 14

Distribution of Vehicles by Number of Cylinders
(Percentage)

Number of cylinders	1981	1982	1983	1984	Change 1984-81
Four	26.1	30.6	30.1	34.2	+ 8.1
Six	27.4	26.8	28.2	28.3	+ .9
Eight	46.5	42.6	41.7	37.5	- 9.0
Total	100.0	100.0	100.0	100.0	0.0
Number of vehicles	2061	2131	2360	2307	
Average number of cylinders/vehicle	6.4	6.2	6.2	6.1	- .3
Average number of cylinders/vehicle owning household	9.9	9.6	9.3	8.8	- 1.1

TABLE 15

Number of Cylinders per Vehicle, by Number of Vehicles Owned
(Percentage)

Number of Cylinders/car	1981	1982	1983	1984	Change 1981-1984
One Vehicle Households					
Four	26.3	29.5	29.9	36.7	+ 10.4
Six	30.3	29.9	29.5	29.4	- .9
Eight	43.4	40.6	40.6	33.9	- 9.5
Total	100.0	100.0	100.0	100.0	0.0
Average cylinders/car	6.3	6.2	6.2	5.9	- .4
Two Vehicle Households					
Four	27.7	30.8	31.6	35.0	+ 7.3
Six	25.9	26.4	25.8	27.9	+ 2.0
Eight	46.4	42.8	42.6	37.1	- 9.3
Total	100.0	100.0	100.0	100.0	100.0
Average cylinders/car	6.4	6.2	6.2	6.0	- .4
Three Vehicle Households					
Four	22.2	28.2	26.6	29.0	+ 6.8
Six	26.2	22.0	29.8	27.1	+ .9
Eight	51.6	49.8	43.6	43.9	- 7.7
Total	100.0	100.0	100.0	100.0	0.0
Average cylinders/car	6.6	6.4	6.3	6.3	- .3

TABLE 16

Relationship Between Vehicle Ownership and Usage

Number of Vehicles Owned	Percent of Sample[a]			Average Number of Cylinders			Average Number of Days Driven to Work/School		
	1982	1983	1984	1982	1983	1984	1982	1983	1984
One	57	59	56	6.2	6.2	5.9	3.8	3.9	3.7
Two	32	32	34	6.2	6.2	6.0	3.7	3.8	3.6
Three or More	11	9	10	6.4	6.3	6.3	3.6	3.5	3.2
Total	100	100	100						
Mean				6.2	6.2	6.1	3.7	3.7	3.6

[a] Excludes households with no vehicle.

TABLE 17

Relationship Between Vehicle Ownership and Demographics

Average

...mber of ...hicles ...ned	Percent of Sample			Total Family Income			Percent Owning Home			Percent English Speaking			Number of People in Household			Number Working Full-Time in Household		
	1982	1983	1984	1982	1983	1984	1982	1983	1984	1982	1983	1984	1982	1983	1984	1982	1983	1984
...one	11	13	12	$15,000	$15,600	$16,300	22	22	18	61	59	69	1.8	2.0	2.0	.7	.7	.6
...ne	50	51	49	$24,700	$25,100	$27,400	54	60	54	66	70	70	2.7	2.8	2.7	1.2	1.2	1.1
...wo	29	28	30	$33,200	$32,000	$35,700	78	78	78	83	85	80	3.2	3.4	3.2	1.6	1.5	1.5
...hree ...r More	10	8	9	$39,100	$34,700	$39,000	79	80	77	86	89	85	4.1	4.0	3.8	2.1	1.9	1.8
	100	100	100															
...tal Sample (Average)				$ 27,600	$ 26,700	$29,300	60	62	58	69	74	74	2.9	3.0	2.9	1.4	1.3	1.2

TABLE 18

Selected Automobile Characteristics, Canada

Households with Automobiles[a]	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	Change (1974-83)
	Percentages										
None	22.0	21.2	20.6	21.1	21.1	22.0	20.2	20.1	19.9	20.9	- 1.1
One	56.4	55.8	55.0	54.5	54.5	54.7	53.7	53.6	52.4	51.2	- 5.2
Two	18.1	19.3	20.1	20.1	20.1	19.1	21.2	21.7	22.4	22.2	+ 4.1
Three or more	3.5	3.7	4.3	4.3	4.3	4.2	4.9	4.7	5.3	5.7	+ 2.2
Passenger Car Sales ('000)[b]	943	989	946	991	988	1,003	932	904	713	843	
											Change (1974-1982)
Registration of Passenger Cars ('000)[c]	8,328	8,693	9,016	9,509	9,745	9,985	10,256	10,199	10,530	-	+ 26.4
Average Passenger Cars/Capita	.37	.33	.39	.41	.42	.42	.43	.42	.43	-	+ 16.2
Average Passenger Cars/Household	1.28	1.30	1.30	1.35	1.33	1.32	1.32	1.27	1.28	-	- 0.0
Net Sales of Gasoline ('000,000 litres)[d]	30,338	31,824	32,438	33,277	32,273	31,847	31,898	30,783	26,989	-	- 11.0

a Source: Household Facilities and Equipment, Statistics Canada, various issues, Catalogue 64-202.
b Source: New Motor Vehicle Sales, Statistics Canada, various issues, Catalogue 63-209.
c Source: Road Motor Vehicle Registrations, Statistics Canada, various issues, Catalogue 53-218.
d Source: Road Motor Vehicle, Fuel Sales, Statistics Canada, various issues, Catalogue 53-218.

TABLE 19

Passenger Car Fuel Consumption Survey[a]

Average Kilometers Driven

Time Period	1979	1980	1981	1982	1983	Change
Winter (Jan.-March)	-	3,430	3,400	3,250	3,690	+ 7.6% (80-83)
Spring (Apr.-June)	-	4,150	4,230	4,220	4,200	+ 1.7% (80-83)
Summer (July-Sept.)	-	4,620	4,390	4,720	-	+ 2.2% (80-82)
Fall (Oct.-Dec.)	4,120	3,510	3,460	3,850	-	- 6.6% (79-82)
Average/quarter	N/A	3,928	3,870	4,010	N/A	

Litres per 100 Kilometers

Time Period	1979	1980	1981	1982	1983	Change
Winter	-	18.6	16.3	17.9	15.6	-16.1% (80-83)
Spring	-	15.5	15.1	14.2	13.9	-10.3% (90-83)
Summer	-	15.1	15.5	13.6	-	- 9.9% (80-82)
Fall	17.2	16.8	16.6	15.3	-	-11.0% (79-82)
Average/quarter	N/A	16.5	15.9	15.3	N/A	

Litres Consumed

Time Period	1979	1980	1981	1982	1983	Change
Winter	-	636	555	582	580	- 8.8% (80-83)
Spring	-	646	646	600	590	- 8.7% (80-83)
Summer	-	705	682	636	-	- 9.8% (80-82)
Fall	709	591	573	590	-	-16.8% (79-82)
Average/quarter	N/A	644.5	614.0	602	N/A	

[a] Source: Passenger Car Fuel Consumption Survey, Special Surveys Program, Statistics Canada, various issues.

Note: Based on one passenger car, regardless of number of cars operated by household.